## CV RICHARD A. LEMEN, Ph.D.

ASSISTANT SURGEON GENERAL,
REAR ADMIRAL, USPHS (RET)
CONSULTANT IN OCCUPATIONAL HEALTH, EPIDEMIOLOGY, AND PUBLIC HEALTH

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Retired As:

Assistant Surgeon General, Rear Admiral (RADM), Regular Corps Appointment

United States Public Health Service (USPHS) (Ret.)

Deputy Director (Ret.)

National Institute for Occupational Safety and

Health, (NIOSH)

Centers for Disease Control and Prevention (CDC)

## **PROFESSIONAL CAREER**

## CONSULTANT IN OCCUPATIONAL SAFETY AND HEALTH

Date

March 1996 - Present

Since retiring from the United State Public Health Service I have been a private consultant. During this time I spent 1996 through 1997 as the Senior Scientific Advisor of the Center To Protect Workers Rights, an organization dedicated to the preservation of safety and health for the construction industry. I also am a Professor and have taught occupational and environmental health (EOH 500 – IH) at the Emory University (1996-2002) and on the adjunct faculty as Associate Professor at the Kettering Laboratory of the University of Cincinnati School of Medicine. I am President of The Risk Advisors, Ltd., which is engaged in the analysis of risks associated with occupational and environmental exposures. I also serve as an expert in litigation.

## NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH (NIOSH)

Date

Agency

Job Title

August 1991 - March 1996

National Institute For Occupational Safety and Health (NIOSH), CDC, USPHS

Assistant Surgeon General USPHS;

Deputy Director

August 1993 - April 1994

NIOSH

Acting Director

As Deputy Director, I participated and fully shared with the Director the responsibility for planning, developing, evaluating, and managing the Institute. I provided advice and assistance to the Director on scientific policies, activities, and operations in the overall management of the Institute. I served as an

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expert advisor to the Director on implications of state and local-level health and safety requirements. I assisted the Director in maintaining liaison with top officials of the Department of Labor and other federal, state, and local government organizations to present NIOSH goals and programs and to obtain their cooperation. I served as Acting Director, NIOSH, in the absence of the Director. I represented the Director on various committees and scientific matters with full authority to speak and act for the Institute. In addition I had direct responsibility for the Institute's extramural grants program, international health activities, and the Institute's Board of Scientific Counselors. The Institute had a budget of \$133,000,000 and a staff of 951. I served as Acting Director, after the retirement of the Director from August 1, 1993 through April 15, 1994, when a new director was appointed by the Secretary of Health and Human Services and the approval of the President of the United States.

Date Agency Job Title

October 1988 -

National Institute for

Assistant Director

July 1991

Occupational Safety And Health,

CDC, USPHS

I served as Assistant Director of the National Institute for Occupational Safety and Health in Washington, D.C. and I served as the Assistant Director for the Centers for Disease Control (CDC) Washington, D.C. Office.

NIOSH had an annual budget of \$85 million and approximately 815 positions. I served as Director of the Institute at the request of the Director, NIOSH. Also, I planned, managed, scheduled and assigned work to various organizational components of the Institute. In the capacity of Assistant Director of the CDC Washington, D.C. office, I served as alternate agency representative to the office of the Surgeon General, United States Public Health Service.

As Assistant Director, NIOSH, I represented and acted for the Director of NIOSH in contacts with high level officials in the Office of the Secretary of the Department of Health and Human Services, the Office of the Assistant Secretary for Health as well as other Departmental offices in both informal interaction and in formal policy formulation matters. In addition, I was in frequent direct communication with members of Congress and their staffs; high ranking officials of governmental health agencies; national and international health leaders; national and international union and trade association leaders; and high ranking officials of other federal agencies including the Office of Management and Budget and the White House. I was also the NIOSH liaison to state; city; and county health and labor agencies. As the primary liaison for NIOSH with the Office of the Assistant Secretary for Occupational Safety and Health (OSHA) and the Office of the Assistant Secretary for Mine Safety and Health (MSHA) in the Department of Labor, I was responsible for day to day of activities related to each Agency. I also represented the Director of NIOSH to representatives of various foreign embassies and other organizations to explain, defend, negotiate and settle issues of major consequence to NIOSH's mission. These interactions frequently require consensus development from initially varying views.

I served as a principle member of the NIOSH Director's senior management team using my epidemiology and occupational medicine training along with a broad knowledge of public health and of occupational safety and health in participating in the development of Institute-wide policies, program priorities, organizational management, resource allocation and deployment.

I was responsible for assuring the proper development of proposed testimony for congressional hearings on issues affecting NIOSH. In the absence of the Institute Director and with the approval of the CDC Director and other Department Officials, I presented such testimony. In addition, I interpreted to the Congress and to the Department, the implications of pending legislation or regulations pertaining to occupational safety and health issues. During my time in this position, the Institute's budget increased from 70 million to 98 million, and 29% increase and the first substantial increase in 10 years.

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Division of Standards Development and Technology Transfer (NIOSH)

DateAgencyJob TitleAugust 1981 -Division of StandardsDirectorSeptember 1988Development and<br/>Technology Transfer,<br/>NIOSH, CDC, USPHS

In this position, as Director, my job was to: (1) develop from existing scientific and technical information documents containing; (a) criteria for recommending occupational safety and health standards for the Occupational Safety and Health Administration of the Department of Labor; and (b) technical and scientific information relevant to a variety of occupational safety and health issues: (2) develop recommended health standards under the Federal Mine Safety and Health Act of 1969 and it's amendments of 1977: (3) in cooperation with the U.S. Department of Labor, coordinate NIOSH Testimony for the Department of Labor hearings on proposed standards: (4) assist the Director, NIOSH, in establishing a priority system for research, document development, and recommending standards: (5) prepare and annually revise the legislatively mandated toxic substances list: (6) conduct a clearinghouse for receiving, storing, retrieving, and disseminating technical information on occupational safety and health: (7) provide statistical methodology review for NIOSH research activities.

During my time as Director, the development of NIOSH criteria documents were produced by NIOSH scientific staff, whereas, previously several contractors did them. This change occurred after a user survey found the quality of the scientific review was lacking. By producing the documents with NIOSH scientific staff the quality improved and 26 documents were completed and transmitted to the Department of Labor (DOL) recommending new comprehensive occupational safety and health standards. Also, I directed and facilitated a team effort in the scientific assessment of occupational safety and health standards, the largest ever completed in the United States, when NIOSH presented recommendations to the DOL on 626 substances in order to update permissible exposure levels that were 19 years out of date. In addition 17 current intelligence bulletins and a newer series of policy statements designed to get new information to targeted populations as risk of injury or diseases was begun and 17 alerts resulted. Also during my tenure as Director I lead the NIOSH team of experts in testimony to the DOL hearings on rule-making 23 times. I also represented the Institute 13 times in testimony before the United States Congress. As the Secretary of the Department of Health and Human Service's (DHHS) personnel representative to the Asbestos Hazards Safety Task Force of the United States Department of Education, I provided the most current scientific and policy data relevant to asbestos exposure and control. Other committee involvement included Chairmanship of the DHHS Committee on Health Effects of Ingested Asbestos, Chairmanship of the OSHA/NIOSH Task Force on Review of Occupational Exposure to Asbestos, Vice-chairmanship of the DHHS Subcommittee on Environmental Health Risk Assessment of the Committee to Coordinate Environmental Health Research, and membership on the National Cancer Advisory Board. Also, I established the first joint NIOSH criteria document with the Swedish National Institute of Occupational Health and also the 1st joint criteria document with the Nordic Criteria Document Group. I was responsible for managing 85 staff positions, with an annual budget of \$4.1 million.

Division of Criteria Documentation and Standards Development (DCDSD) Division of Technical Services (DTS)

Date	Agency	Job Title
June 1980 -	Division of Criteria	Director
July 1981	Documentation and	
	Standards Development and	
	Division of Technical Services,	
	NIOSH, CDC, USPHS	

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In this position, as Director of DCDSD, I was responsible for providing recommendations to the Director of NIOSH for the development of criteria for the congressionally mandated purpose of recommending safety and health standards, so that meaningful recommendations could be made by the Department of Health and Human Services to the Department of Labor. Also, I established, coordinated, and maintained an in-depth working relationship with individuals responsible for directing the Institute's research programs in order to include NIOSH research findings for policy recommendations to the Department of Labor.

I helped to define and communicate, both general and specific, research needs as they related to the development of criteria for national occupational safety and health standards. The position required a fundamental understanding of the technical considerations, as well as the basic philosophies that encompass the field of occupational safety and health. I insured that in developing recommended standards all options were reviewed and tested for effectiveness. As final reviewer of all criteria documents and recommended standards prior to transmittal for approval by the Director of NIOSH, I assessed the total project and its usefulness to job safety and health.

I also developed and maintained open channels of communication with industry, organized labor, and national and international professional organizations to identify anticipated problem areas, as well as other research pertaining to occupational safety and health. In this position, as Director, DTS I directed the development of technical assistance strategies and resources for program development at the Federal, state, and local levels. I directed the preparation and revision of the annually legislated and mandated toxic substances list. I administered a clearinghouse for receiving, storing, retrieving, and disseminating technical information on occupational safety and health hazards. I directed the development of guidelines for the classifications of occupational disease in compensation programs and promoted and provided technical guidance in the development of occupational safety and health programs at the state and local government levels, in industry. I directed the analysis of relevant occupational medicine programs in industry as they related with the total delivery of health services. I directed the development of innovative methods, techniques, and approaches for dealing with occupational safety and health problems and provided statistical services for Institute research activities.

Division of Surveillance, Hazard Evaluation and Field Studies, Industry-wide Studies Branch and Biometry Section and

The Division of Field Studies and Clinical Investigations - Biometry Section\*

Date	Agency	Job Title
September 1978 - June 1980	Industry Wide Studies Branch DSHEFS, NIOSH, CDC, USPHS	Assistant Chief, IWSB
April 1976 -	Biometry Section, IWSB,	Chief,
September 1976	DSHEFS, NIOSH, CDC, USPHS	Biometry Section
January 1974 -	Biometry Branch, DFSCI,	Chief,
April 1976	NIOSH, CDC, USPHS	Biometry Branch

<sup>\*</sup>Note: Re-organization of the Institute was responsible for the title changes, however, the job functions remained the same.

As Chief of the Biometry Section and Branch, and as Assistant Chief of the Industry-wide Studies Branch Division of Field Studies and Clinical Investigations, my major responsibility was to provide administrative and scientific guidance direction for all bio-statistical, epidemiological, and Industrial Hygiene analyses of ongoing industry-wide studies within the Division. The staff consisted of approximately 40 staff (statisticians and epidemiologists, physicians and industrial hygienists, statistical clerks, records clerks, and

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secretaries). The annual operations budget was approximately \$1,328,500. Over 200 hundred scientific articles were published by this staff during my leadership.

Division of Field Studies and Clinical Investigations (DFSCI), Biometry Branch

DateAgencyJob TitleJuly 1971 -Biometry Branch,Epidemiologist

December 1973 DFSCI, NIOSH, CDC, USPHS

In this position, I was responsible for conducting several retrospective cohort studies on workers who had been exposed to substances such as Asbestos, Bis(chloromethyl) Ether, Cadmium, Benzidine, Beta-Naphthylamine, Carbon Monoxide, Methyl Ethyl Ketone, Methyl Butyl Ketone, Styrene-Butadiene Rubber, and Talc and I participated in a variety of other studies. Each of these studies resulted in several scientific publications by myself.

Bureau of Occupational Safety and Health (BOSH), Field Studies Branch (Until April 29, 1971 then National Institute for Occupational Safety and Health)

Date	Agency	Job Title
September 1970 - July 1971	Field Studies Branch, BOSH & NIOSH USPHS	Industrial Hygienist/ Epidemiologist

In this position, I was responsible for directing field teams conducting occupational surveys of the Asbestos and Beryllium industries in the United States. On numerous occasions, I participated as a part of the medical field team and I was responsible for pulmonary function testing of Asbestos and Beryllium workers and for obtaining individual medical and occupational histories. This included surveys of 15 asbestos plants and of all 4 beryllium plants then in existence within the United States. The findings of these investigations resulted in the 1st and 2nd Criteria documents produced by NIOSH for Occupational Health Standards under the Occupational Safety and Health Act of 1970.

## U. S. ARMY - Preventive Medicine Office of The Post Surgeon

Date	Agency	Job Title
September 1967 -	U.S. Army, Ft. Leonard	Preventive Medicine
September 1969	Wood, Missouri	Specialist,(Rank Sp-5)
	Preventive Medicine Office	

In this position, I maintained records of all admissions to the Base Hospital for selected diseases, including malaria, viral hepatitis, rheumatic fever, meningococcal disease, fever of unknown origin, and other communicable diseases. My duties included interviewing patients and making recommendations to the Preventive Medicine Officer in relation to the patient and his environment. I was also in charge of the adenovirus surveillance program, recording all daily Upper Respiratory Infection (URI) admissions, and procuring (actual drawing of) paired sera and throat swabs on selected sections of the inpatient trainee population, in order to determine the dominant strain of the URI agent and thus indicate the type of adenovirus vaccine needed for control of the epidemic.

During my tour of duty, I was responsible for follow-up of unusual incidence of streptococcal sore throats, including the mass swabbing of units having a high incidence, and recommending prophylaxis when indicated. I helped to organize a rheumatic fever registry, which included close screening of all receptees

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and maintenance of a "suspense file" to indicate monthly prophylaxis. I was also involved in the diagnosis, treatment, and follow-up interviews of venereal disease cases. I reviewed (each morning) tine tests given to each new recruit, administered PPD's when indicated, and interviewed all positive reactors to determine if further tests should be made. I investigated food borne disease outbreaks occurring on the Post. It was also my responsibility to help organize and conduct training programs for various units in good preventive medicine measures prior to deployment overseas, particularly to those hazards relative to Vietnam.

## MISSOURI DIVISION OF HEALTH

Date	Agency	Job Title
January 1966 -	Missouri Division	District Sanitarian
September 1967	of Health	

My duties in this position included the inspection of food service establishments, milk processing plants, schools, motels, hotels, tourist camps, fairs, slaughterhouses, rendering and beverage plants in 24 Counties of the state. I conducted field investigations and inspections of waste disposal operations. I determined if a health hazard existed, recommended and initiated corrective measures and interpreted the existing requirements set by law. I directed the organization and operation of community sanitation programs, within my district, pertaining to refuse disposal, insect and rodent control. I investigated complaints related to or connected with the public health and safety of individuals and society and recommended suitable corrective measures. Finally, I helped to organize and conduct courses for food service personnel on sanitation.

#### EDUCATIONAL BACKGROUND

Institution and Major Area	Degree	Date
Central Methodist College , Zoology/Chemistry	B.A.	1967
University of Missouri, Epidemiology	M.S.P.H.	1970
University of Minnesota, Epidemiology	(seminars)	Summer 1971
University of Illinois	Occupational Medicine, Epidemiology, Toxicology (Graduate Studies)	1976 - 1978
University of Cincinnati, Epidemiology	Ph.D.	1992
Consortium for Public Health - University of California, Berkley; University of California, Los Angeles; and San Diego State University	Scholar	1994 -1995

## **ACADEMIC APPOINTMENT**

Adjunct Professor, Department of Environmental and Occupational Health, Rollins School of Public Health, Emory University, Atlanta, GA.

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Adjunct Associate Professor, Department of Environmental Health, Kettering Laboratories, Medical Center, University of Cincinnati, Cincinnati, OH.

## OTHER PROFESSIONAL AFFILATIONS

President, The Risk Advisors, Inc. 1997 to present

Senior Science Advisor, The Center to Protect Worker's Rights 1996 - 1997

Chairperson, Technical Advisory Committee, United Brotherhood of Carpenters, Health and Safety Fund of North America 1997.

## <u>AWARDS AND SERVICE RIBBONS</u>

Army Commendation Medal for Meritorious Service, November 1967 - August 1969.

National Defense Service Medal, U.S. Army, 1967 - 1969.

Good Conduct Medal, U. S. Army, 1967-1969.

Commendation Medal, U.S. Public Health Service (USPHS), For Work Related to the Detection of Occupational Diseases Associated with Asbestos Exposure, 1970-1981.

Special Assignment Service Ribbon, USPHS, 1983.

Foreign Duty Service Ribbon, USPHS, 1983.

Hazardous Duty Service Ribbon, USPHS, 1983.

Who's Who in America, 1984-1985, 43rd Edition, Vol. 2.

Who's Who in America, 1986-1987, 44th Edition, Vol. 2.

Commendation Medal, USPHS, 1985, second award.

Who's Who in America, 1988-1989, 45th Edition, Vol. 2.

Meritorious Service Medal, USPHS, 1988 (Second Highest award of the United States Public Health Service).

Distinguished Alumni, Central Methodist College, April 1989.

The Unit Commendation, USPHS, 1989 & 1997 (2 awards).

Distinguished Service Medal, USPHS, 1991 (Highest award of the United States Public Health Service).

The PHS Citation, USPHS, 1991.

Certificate of Appreciation. In recognition of service at the conference on Agricultural Safety and Health. Surgeon General, USPHS, May 3, 1991.

Who's Who in America, 46th Edition, Vol. 2, 1990 - 1991.

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Certificate of Appreciation for assistance at the 1992 AMSUS Meeting, The Surgeon General, 1992.

The Surgeon General's Exemplary Service Medal, 1993.

Alice Hamilton Science Award For Occupational Safety and Health, NIOSH, 1993 (*Highest Science award of the National Institute for Occupational Safety and Health*).

Charles C. Shepard Science Award, Nominated, CDC, 1993.

Who's Who in America, 47th Edition, Vol. 2, 1992-1993.

I.W. Abel Award of the Industrial Union Department, AFL-CIO, 1994.

Who's Who in America, 48th Edition, Vol. 2, 1994-1995.

James P. Keogh Award for Outstanding Service in Occupational Safety and Health – National Institute for Occupational Safety and Health, April 26, 2000.

## COMMITTEES, ADVISORY PANELS, AND TASK FORCE ASSIGNMENTS, EDITORSHIPS

NIOSH review Committee for the Hexavalent Chromium Criteria Document (alternate member) – 1973.

Program Advisory Committee (PAC) member for the Office of Occupational Health Surveillance and Biometrics, 1971 - 1976.

Planning Committee - "National Conference on Health Effects of Occupational Lead and Arsenic Exposure," February 24-25, 1975, Chicago, Illinois.

Interagency Collaborative Group on Environmental Carcinogenesis - Alternate Member. EPA, OSHA, NIOSH, CPSC.

NIOSH Review Committee for the Nitrogen Dioxide Criteria Document - 1973.

NIOSH Agricultural Task Force, 1973 - 1976.

NIOSH/NCI Cooperative Study of Former Asbestos Workers at Tyler, Texas, 1972 - 1980.

Joint CEQ/HEW/EPA Study on Environmental Carcinogenesis - Alternate NIOSH Representative.

PAC member on the Agricultural Program of NIOSH.

Board of Governors - Tri-State Air Committee. Ohio, Kentucky, and Indiana, 1973-1976 and 1979.

IARC Working Group on the Evaluation of Carcinogenic Risks of Chemicals To Man: Asbestos, Cadmium and Nickel. Lyon, France, December 9-11, 1975.

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Appointed as the principle NIOSH staff person to develop the analysis paper on Asbestos to be transmitted to the Department of Labor for updating the Criteria for Occupational Exposure to Asbestos, 1976.

IARC Working Group on the Evaluation of Carcinogenic Risks of Chemicals in Man: Asbestos. Lyon, France, December 12-19, 1976, (I authored the initial manuscript for the Working Group).

Conference Co-Chairman - Occupational and Environmental Exposure to Fibrous Materials and Particulate Matter, December 4-7, 1977, Washington D.C.

Veterans Administration Advisory Committee on Health-Related Effects of Herbicides, 1979 – 1980.

Asbestos Hazards Safety Task Force, U.S. Department of Education, personnel representative of the Secretary of Health and Human Services, 1980-1986.

Chairman - OSHA/NIOSH Task Force on Review of Occupational Exposure to Asbestos, September, 1979 - April, 1980, Washington, D.C.

IARC Working Group on the Evaluation of the Carcinogenic Risk of Exposures in the Rubber Industry, Lyon, France, June 16-23, 1981, co-rapporteur.

IARC Working Group on the Evaluation of Carcinogenic Risk of Chemicals to Humans: Miscellaneous Pesticides, Lyon, France, June 15-22, 1982.

Member Federal Asbestos Task Force Steering Committee, U.S., Environmental Protection Agency, Department of Labor, Department of Labor, Department of Commerce, and Department of Health and Human Services, 1983-1995.

Chairman - DHHS Committee on Health Effects of Ingested Asbestos, 1984 -1990.

Vice-Chairman, DHHS (PHS) Subcommittee on Environmental Health Risk Assessment, Committee to Coordinate Environmental Health Research, 1986 - 1994.

Member (Alternate), National Cancer Advisory Board, 1987 - 1994.

NIOSH Representative and founding member to the OSHA/NIOSH/EPA Committee to coordinate policy activities, 1980-1991.

NIOSH Representative to the International Association of Industrial Accident Boards and Commissions, 1987 - 1995.

NIOSH Member to the Task Force On Environmental Cancer and Heart and Lung Disease.

Organizing Committee and Advisory Group for the Conferencia Seguridad y Salud Ocupacional de Puerto Rico. Dorado, PR. 1990 - 1994.

Vice-chairman, First Meeting of the WHO Collaborating Centres in Occupational Health, Moscow, Russian Federation, September 1991.

Planning Committee, Second Meeting of the WHO Collaborating Centres in Occupational Health, Geneva, June, 1993 - 1994.

Evaluation Committee Chairman, The Asbestos Programme Initiated by the Finnish Institute of Occupational Health, Helsinki, Finland, 1993 - 1995.

World Health Organization Expert Advisory Panel on Occupational Health, April 1993, Term 1993 - 1997. By appointment of the Director-General, World Health Organization, Geneva, Switzerland.

Editorial Board, World Health Organization Collaborating Centres in Occupational Health Newsletter, Geneva, Switzerland, 1992 - 2000.

Contributing Editor, American Journal of Industrial Medicine, 1991 - Present.

Associate Editor, Polish Journal of Occupational Medicine, 1992 – 1994.

International Contributing Editor, International Journal of Occupational Medicine and Environmental Health, 1994 – Present.

Editorial Board, Occupational Hygiene, 1994 - 1997

Contributing Editor, Public Health Reports, 1993 - 1996

Chairman, Planning Group of the WHO Collaborating Centres in Occupational Health, 1994 – 1996 (term).

International Editorial Review Board – Applied Occupational and Environmental Hygiene.

## NIOSH TESTIMONY PRESENTED TO THE CONGRESS OF THE UNITED STATES

Asbestos - Related Diseases; Committee on Education and Labor, Subcommittee on Labor Standards, United States House of Representatives, May 1, 1979, Washington, D.C.

Occupational Disease, including Occupational Cancers; Committee on Education and Labor, Subcommittee on Labor Standards, United States House of Representatives, 1979, Washington, D.C.

Asbestos Exposure Among Seamen and Shipyard Workers; Committee on Merchant Marine and Fisheries, Subcommittee on Coast Guard and Navigation, United States House of Representatives, February 12, 1980, Washington, D.C.

Potential Health Effects of Video Display Terminals and Radio Frequency Heaters and Sealers; Subcommittee on Investigations and Oversight, Committee on Science and Technology, United States House of Representatives, May 13, 1981, Washington, D.C.

Cotton Dust; Subcommittee on Investigations and Oversight, Committee on Science and Technology, United States House of Representatives, September 22, 1982, Washington, D.C.

Public Health Problem of Asbestos; Subcommittee on Manpower and Housing, Committee on Government Operations, United States House of Representatives, June 28, 1983, Washington, D.C.

Ethylene Dibromide; Committee on Education and Labor, Subcommittee on Labor Standards, United States House of Representatives, September 13, 1983, Washington, D.C.

Cabin Air Quality; Committee on Commerce, Science, and Transportation, Subcommittee on Aviation, United States Senate, November 9, 1983, Washington, D.C.

Asbestos; Subcommittee on Public Buildings and Grounds, Committee on Public Works and Transportation, United States House of Representatives, March 21, 1984, Washington, D.C.

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Asbestos; Subcommittee on Public Buildings and Grounds, Committee on Public Works and Transportation, United States House of Representatives, October 2, 1984, Washington, D.C.

Methyl Isocyanate (MIC); Subcommittee on Health and Safety, Committee on Education and Labor, United States House of Representatives, December 12, 1984, Washington, D.C.

Hazardous Waste; Subcommittee on Employment and Housing, Committee on Government Operations, United States House of Representatives, March 27, 1985, Washington, D.C.

Neurotoxic Substances; Subcommittee on Investigations and Oversight, Committee on Science and Technology, United States House of Representatives, October 9, 1985, Washington, D.C.

Radiation Hazards: Subcommittee on Transportation and Hazardous Materials, Committee on Energy and Commerce, U.S. House of Representatives, U.S. Congress, Washington, D.C., February 23, 1989.

Diesel Exhaust: Subcommittee on Health and Safety, Committee on Education and Labor, U.S. House of Representatives, U.S. Congress, Washington, D.C., July 31, 1989.

Occupational Lead Exposure: Subcommittee on Health and The Environment, Committee on Energy and Commerce, U.S. House of Representatives, Washington, D.C., March 3, 1993.

## TESTIMONY PRESENTED TO THE UNITED STATES DEPARTMENT OF LABOR

Occupational Exposure to Inorganic Arsenic: Risk Assessment; Washington, D.C., July 14, 1982.

Proposed Standard on Occupational Exposure to Cotton Dust; Washington, D.C., September 21, 1983.

Proposed Rule on Occupational Exposure to Ethylene Oxide; Washington, D.C., July 20, 1983.

Proposed Rule on Occupational Exposure to Field Sanitation; Washington, D.C., June 24, 1984.

Proposed Rule on Occupational Exposures in Grain Handling Facilities; Washington, D.C., May 14, 1984.

Proposed Rule n Occupational Exposure to Asbestos, Washington, D.C., June 21, 1984.

Rule on Occupational Exposures in the Oil and Gas Well Drilling and Servicing Industry, Washington, D.C., July 25, 1984.

Proposed Rule on Occupational Exposures to Ethylene Oxide, Washington, D.C., July 24, 1985.

Proposed Rule on Occupational Exposures to Benzene, Washington, D.C., March 20, 1986.

Proposed Rule on Hazardous Waste Operations and Emergency Response, Washington, D.C., October 4, 1987.

Proposed Rule on Occupational Exposure to Formaldehyde, Washington, D.C., May 5, 1986.

Proposed Rule on Occupational Noise Standard; OSHA, Washington, D.C., December 29, 1987.

Proposed Rule on Occupational Exposure to Hepatitis B Virus; OSHA, Washington, D.C.,

January 29, 1988.

Proposed Rule on Safety Standards for Excavations in the Construction Industry, Washington, D.C., April 1, 1988.

Proposed Rule on Asbestos, Michigan State OSHA, East Lansing, Michigan, May 10, 1988.

Proposed Rule on Safety Standards for Excavations in the Construction Industry. 29 CFR 1926, Docket No. 5Ä204, OSHA Informal Hearing, Washington, D.C., April 19, 1988.

Proposed Rule on Automatic Emergency - Parking Brakes for Rubber-Tired, Self-Propelled Electric Face Equipment; Mine Safety and Health Administration, Arlington, VA, April 29, 1988.

Proposed Rule on Air Contaminants, 29 CFR 1910, Docket No. HÄ020, OSHA Informal Hearing, Washington, D.C., August 1, 1988.

Proposed Rule on Electrical Safety - Related Work Practices, OSHA, Washington, D.C., August 9, 1988.

Proposed Rule on Diesel Exhaust; Mine Safety and Health Administration, Arlington, VA., July 12, 1989.

Proposed Rule on Occupational Exposure to Asbestos, Tremolite, Anthophyllite, and Actinolite, 29 CFR Parts 1910 and 1926, Docket No. H-033d, Occupational Safety and Health Administration, Washington, D.C., May 9, 1990.

Proposed Rule on Occupational Exposure to Cadmium, 29 CFR Part 1910, Docket No. H-057a, OSHA Informal Hearing, Denver, CO., July 17, 1990.

Proposed Rule on Occupational Exposure to Asbestos, Tremolite, Anthophyllite, and Actinolite, 29 CFR Parts 1910 and 1926, Docket No. H-033-e, OSHA Informal Hearing, Washington, D.C., January 24, 1991.

#### SELECTED PAPERS PRESENTED

Health Hazards in the Aluminum and Chemical Industry - -Third International Safety and Health Conference, Chicago, IL, United Steel Workers of America, September 25, 1973.

Asbestos-Related Disease: A Community Epidemic in the Making - American Public Health Association, Annual Meeting, San Francisco, CA, November 4-8, 1973.

Peripheral Neuropathy Outbreak Among Coated Fabrics Workers--Epidemic Intelligence Surveillance Seminar, Atlanta, GA, CDC, December 4, 1973.

OSHA and the Nurse: OSHA and Pulmonary Disease- - - Course for Nurses, Chicago, IL, March 16, 1974.

Field Studies Program of NIOSH - Missouri Environmental Health Association, Jefferson City, MO, August 7-9, 1974.

Cancer-Related Problems in the Metals Industry - National Safety Council Meeting, Chicago, IL, October 1, 1974.

Bio-Assay and Epidemiology - -Tri-State Industrial Meeting, New Brunswick, New Jersey, American Industrial Hygiene Association, December 6, 1974.

Cytologic Observations and Cancer Incidence Following Exposure to BCME - - New York Academy of Sciences, New York, NY, March 24 - 27, 1975.

Cytologic Operations and Cancer Incidence Following Exposure to BCME - - American Public Health Association, Chicago, IL, November 17, 1983.

Co-Chairman-Health Aspects of Cadmium in the Environment - International Conference on Heavy Metals in the Environment, Toronto, Canada, October 27Ä31, 1975.

Cancer Mortality Among Workers Exposed to Cadmium - - International Conference on Heavy Metals in the Environment, Toronto, Canada, October 27 31, 1975.

Evidence for the Carcinogenicity of Beryllium - - International Conference on Heavy Metals in the Environment, Toronto, Canada, October 27 31, 1975.

Carcinogenicity of Alkylating Agents: Site, Incidence and Histology - - American Public Health Association, Chicago, IL, November 16 20, 1975.

Problems in the Petrochemical Industry - - Third International Symposium on Detection and Prevention of Cancer, New York, NY, April 26, 1976.

Peripheral Neuropathy Associated with Exposure to Solvents in a Coated Fabric Manufacturing Facility - - American Occupational Medical Association 61st Annual Meeting, Cincinnati, OH, April 29, 1976.

Cancer-Related Problems in the Steel, Aluminum and Cadmium Smelting Industries - - Environmental Cancer - Causes, Victims, Solutions: A Conference, Washington; DC, Urban Environmental Conference, Inc., March 21-22.

Cancer-Related Problems in the Metals Industry: An Epidemiological Overview - -Thirty - Second Meeting of the Interagency Collaborative Group on Environmental Carcinogenesis, Bethesda, MD, National Institutes of Health, May 18, 1977.

Evidence for Industrial Cadmium Carcinogenesis - - American Industrial Hygiene Association, Chicago, IL, October 5, 1977.

Occupational Carcinogenesis - International conference on Cancer and Environment, Montreal, Quebec, Canada, October 13 -14, 1977.

Overview of Industrial Carcinogens: Industrial and Environmental Carcinogens -The American Cancer Society-Massachusetts Division, Inc., and the U.S. Department of Labor, Occupational Safety and Health Administration, Boston, MA, October 19, 1977.

Carcinogens: Are They Responsible for 90 percent of our Cancer? - Trust Inc., Chicago, IL, January 19, 1978.

Epidemiology - Basic Principles and Terminology - Review Course in Preventive and Occupational Medicine, Chicago, IL, University of Illinois at the Medical Center, Office on Continuing Education Services, March 7, 1978.

Tyler, Texas - Revisited: A Review of Occupational and Environmental Exposures to Amosite Asbestos as a Result of Manufacturing Thermal Pipe Insulation -Department of Justice, Washington, DC, May 1, 1979.

Epidemiology of Asbestos - Related Diseases - Biological Effects of Asbestos, Bethesda, MD, National Institutes of Health, June 7-8, 1979.

Occupational Diseases, Including Occupational Cancers - Committee on Education and Labor, Subcommittee on Labor Standards, Washington, DC, United States House of Representatives, June 7, 1979.

Impediments to Occupational Epidemiologic Studies Conference on Epidemiologic Methods for Occupational and Environmental Health Studies, Society for Environmental Health, Washington, DC, 1979.

Updated Occupational Mortality Study in the U.S. Cadmium Smelter - Second Annual Park City Environmental Health Conference, Health and Exposures in the Smelter Environment, Park City, UT, March 27, 1980.

NIOSH's relationship to OSHA's New Direction Grants Program - Department of Labor, OSHA's New Directions Grantees Conference, Washington, DC, December 17, 1980.

NIOSH's Standards Recommending Program - presented at the Third Annual Park City Environmental Health Conference, Park City, UT, April 7, 1981.

Priority Setting and Quantitative Risk Assessment - Committee on the Institutional Means for Assessment of Risks to Public Health, Washington, DC, The National Research Council, Assembly of Life Sciences, October 13, 1981.

Identification of Occupational Health Hazards: The Past - Conference on Occupational Health Hazards (Carcinogens in Particular), Royal Botanical Gardens, Burlington, Ontario, Canada, McMaster University, November 10, 1981.

Impediments to Occupational Epidemiologic Studies - Columbia University School of Public Health, New York, NY, February 25, 1982.

Asbestos and Disease - Ohio River Valley Conference on Occupational Safety and Health, Cincinnati, OH, March 6, 1982.

NIOSH's Current Approach to Criteria Document Development - Chemical Manufacturers Association, Arlington, VA, April 29, 1982.

Overview of Cancer in the Workplace - Symposium on Recognition and Prevention of Cancer Among Workers for Rubber Workers and Their Management, Akron, OH, August 17, 1983.

Epidemiology: Picking out Health Patterns and Relating Them to the Workplace - Occupational Safety and Health Institute, Silver Springs, Maryland, George Meany Center for Labor Studies, May 24, 1983.

Scientific Bases for Public Health Action in Communities and Workplaces with Potential Dioxin Exposure - Society for Occupational and Environmental Health Program on the Scientific and Social Response From Exposure to Dioxin and Related Materials, Arlington, VA, December 6-7, 1983.

Occupational Epidemiology, Occupational Safety and Health Institute - George Meany Center for Labor Studies, May 1983 and June 12, 1984, Washington, DC.

Workers Right-to-Know - University of South Florida, College of Medicine, Tampa, FL, March 16, 1984.

Risk Management - Dubos Forum on Environment and Human Health, The Rockefeller University, New York, NY, September 20, 1984.

The Role of NIOSH - Standards Development for Occupational Safety and Health - National Safety Congress, October 17, 1984.

The Health and Safety Hazards of Building Ships - 3rd Biennial National Shipbuilding Conference, Metal Trades Department, AFL/CIO, Washington, DC, November 15, 1984.

NIOSH and Chemical Hazards in the Workplace - The Synthetic Organic Chemical Manufacturers' Association, Inc., Charlotte, NC, March 18, 1985.

Asbestos and Cancer - The American Society for Preventative Oncology, Toronto, Canada, April 12, 1985.

Overview of the Federal Role in Occupational Safety and Health, Chicago Area Committee on Occupational Safety and Health, Chicago, IL, April 27, 1985.

Top 10 Leading Occupational Safety and Health Problems - Chinese Medical Association, Washington, DC, April 28, 1985.

New Directions in Occupational Health: Epidemiologic perspectives - Symposium on Epidemiology and Clinical Trials, Taipei, Republic of China, June 11, 1985.

Cancer Policy (NIOSH) - Northeast Industrial Hygiene Conference, Cherry Hill, PA, December 6, 1985.

Current Knowledge of Health Effects of Asbestos - Northwest Center for Occupational Health and Safety, University of Washington, Seattle, WA, March 11, 1986.

Luncheon Speaker - Conference on Environment, Health, and Safety, Rubber Manufacturers Association, Atlanta, GA, April 27, 1986.

Risks Old and New: A Global Consultation on Health, Occupational and Environmental Health Overview, Responder - The Carter Center, Emory University, Atlanta, GA, April 28, 1986.

A Proposed National Strategy for the Prevention of Occupational Cancers, Chairman, Expert Panel - lst National Symposium on the Prevention of Work-Related Diseases and Injuries, Atlanta, GA, May 1 - 3, 1985.

An Update of Asbestos Effects and Regulation - 14th Annual Air Pollution/Contamination Control Seminar, Rosnagel and Associates, King of Prussia, Pennsylvania, May 22, 1986.

Formaldehyde, Benzene, and Standards Setting - Grand Rounds, Medical School, University of Illinois, Chicago, IL, June 12, 1986.

Asbestos Exposure and Merchant Seamen in the U.S. - Collegium Ramazzini, Heidelberg, Germany, July 8, 1986.

A Proposed National Strategy for the Prevention of Disorders of Reproduction, Chairman, Expert Panel - 2nd National Symposium for the Prevention of Leading Work- Related Diseases and Injuries, Cincinnati, OH, October 28-31, 1986.

Occupational Safety and Health Standards: A Perspective, New York Academy of Sciences Meeting, Washington, DC, January 22, 1988.

What is Asbestos?: 17th Annual Meeting - Society of Mining Engineers, Phoenix, AZ, January 25, 1988.

Priority Setting and Criteria Work, National Institute of Occupational Health, Stockholm, Sweden, February 22, 1988.

Man-Made Mineral Fibers: A Regulatory Perspective, Northwest Center for Occupational Health and Safety, Seattle, WA, May 5, 1988.

Occupational Safety and Health Standards: A Perspective. 1988 Joint Labor/Management Health and Safety Symposium, United Rubber Workers, Bal Harbour, FL, September 20, 1988.

Occupational Safety and Health - The NIOSH Perspective. Missouri Public Health Association, Lake of the Ozarks, Missouri, April 6, 1989.

NIOSH. Organizations Resources Councilors. Arlington, VA., May 3, 1989.

Asbestos Related Diseases. Fifth Annual Asbestos Litigation Seminar. Monterey, CA, May 12, 1989.

Prevention of Human Exposures and Health Effects from Crude Oil. The Alaskan Oil Spill and Human Health, Chairperson. Seattle, WA, July 30, 1989.

NIOSH - LIUNA Cooperation. Laborers - Association of General Contractors Education and Training Fund, 20th Anniversary Conference, Boston, Massachusetts, July 26, 1989.

NIOSH Perspectives on the Ecology of Human Populations in Estuarine Environments. Workshop on Opportunities for Human and Environmental Health Research on Estuarine Environments, Workplace Health Fund. Solomons, MD, August 31, 1989.

Global Warming, Energy Conservation and Thermal Insulation. Chairperson, First Annual Environmental Conference Week, Associated Programs, Workplace Health Fund. Solomons, MD, August 28, 1989.

Efecto Medicos/Vigilancia Medica. Seminario Sobre Asbesto. San Juan and Ponce, PR, September 11 and 13, 1989.

Man-Made Mineral Fibers: A Regulatory Perspective. National Safety Congress and Exposition, Chicago, IL, October 31, 1989.

Construction Safety and Health Hazards. Building and Construction Trades Department, Legislative Conference, Washington, DC, April 4, 1990.

NIOSH Approach to Recommending Standards. The George Washington University - Medical Center. May 31, 1990.

NIOSH Research Agenda for 1990 - 1991. Organizations Research Counselors, Inc. Western Meeting, Newport Beach, CA, June 13 - 14, 1990.

Snowballing for Prevention in the 1990's. Conference on Occupational Safety and Health Agenda for the 1990's, Washington, DC, July 8, 1991.

Diesel Emissions and Cancer. International Association of Machinists and Aerospace Workers. Advanced Safety and Health Training Program. Placid Harbor, MD, August 28, 1990.

Creating a Safe and Healthy Workplace for Nurses. American Nurses Association, 57th Biennial Convention, Nurses United in Caring. June 15 - 20, 1990. Two sessions, Boston, MA.

Current Areas of Concern Being Addressed by NIOSH Recommendations. 1990 Joint Labor/Management Health and Safety Symposium, August 19 - 25, 1990, Daytona Beach, FL.

Prevention of Work-Related Diseases and Injuries: The Importance of a Psychological Disorders Strategy. Keynote Speech, November 16, 1990, Work and Well-Being: An Agenda For the 90's. The American Psychological Association in Conjunction with The National Institute for Occupational Safety and Health, Washington, DC.

Occupational Hazards in the Health Professions. December 11 - 13, 1990. Conferencia Seguridad y Salud Ocupacional de Puerto Rico, Enfrentando Los Retos Del Siglo XXI, Departamento Del Trabajo y Recursos Humanos, U. S. Occupational Safety and Health Administration, National Institute for Occupational Safety and Health, Hyatt Regency Ceromar, Dorado, PR.

Eleventh Symposium on Occupational Health and Hazards of The Fire Service. Luncheon Speaker, Las Vegas, NV, September 17, 1991.

New Developments in Occupational Safety and Health. 2nd Conferencia de Sequvidad y Salud Occupational de Puerto Rico. Ceromar, PR, December 16, 1991.

Solvents: Health Hazards and Controls. (Same PR Conf. 1991)

Fibers: Are they hazardous to your health? 2nd Conferencia de Sequvidad y Salad Occupacional de Puerto Rico. Hyatt Regency, Ceromar, PR, December 17, 1991.

NIOSH: At the Bar, 1991. Issues, Programs and Health Care Workers. American Bar Association Meeting, Atlanta, GA, August 12, 1991.

Safety and Health and the Working Woman. Conference on Safety and Health and the Working Woman. Cold Spring Harbor Laboratory, Cold Spring Harbor, NY, October 19, 1991.

NIOSH: Future Directions. ORC Occupational Safety and Health Group Meeting. Washington, DC, February 5, 1992.

Conference on Medical Management and Disability Related Issues in Poultry Producing Plants. Atlanta, GA, February 7, 1992.

Lecture on Asbestos and the Developing World. University of Cincinnati. Graduate School Seminars, Cincinnati, OH, February 19, 1992.

Keynote - Hearing Conservation Conference 1992. Cincinnati, OH, April 2, 1992.

Conference on Child Labor. The Mount Sinai Medical Center, New York, NY, May 29, 1992.

Nurses and Health Care Workers: Safety and Health Concerns. Protecting America's Workforce. American Nurses Association. Las Vegas, NV, June 24, 1992.

National Fishing Industry Safety and Health (FISH) Workshop. Anchorage, AK, October 9, 1992.

The Health of Environmental Health. Fifth National Environmental Health Conference, Atlanta, GA, December 3, 1992.

International Conference on Child Day Care Health. Centers for Disease Control. Atlanta, GA, June 16, 1992.

Occupational Safety and Health Training. Association of University Professors in Occupational Safety and Health and National Occupational Safety and Health Education Association. Fort Mitchell, KY, December 10, 1992.

Toxicological Hazards, 3rd Conferencia Seguridad y Salud Ocupacional de Puerto Rico, Dorado, PR, December 1992.

Prevention is the Only Answer. 3rd Conferencia Seguridad y Salud Ocupacional de Puerto Rico, Plenary Keynote, Dorado, PR, December, 1992.

The Power of Surveillance, University of Massachusetts, Amherst, MA, March 10, 1993.

Safety and Health in the Construction Industry, Building and Construction Trades Legislative Conference, Washington, D.C., April 19, 1993.

The Health of Environmental Health. Environmental Medicine Resources, Inc., Client Conference, Atlanta, Ga., April 22, 1993.

Health and Safety Hazards of Carpenters. Scientific and Technical Council Meeting, Health and Safety Fund of North America, Third Annual Conference, Montreal, Canada, June 22, 1993.

Workshop on Engineering Controls for Preventing Airborne Infections in Workers in Health Care and Related Facilities. Cincinnati, OH, July 14, 1993.

Why Ergonomics are Important: National Conference on Ergonomics, Safety, and Health, and Health in Construction, Setting the Agenda and Creating a Coalition, Washington, D.C., July 20, 1993.

The Need for More and Better Research, National Conference on Ergonomics, Safety, and Health, and Health in Construction, Setting the Agenda and Creating a Coalition, Washington, D.C., July 22, 1993.

Keynote Address. The International Association of Fire Fighters Twelfth Biennial Symposium on the Occupational Health and Hazards of the Fire Service, Boston, Massachusetts, August 9, 1993.

Keynote Address. The URW Annual Joint Labor/Management Health and Safety Symposium at Clearwater Beach, Florida, August 23, 1993.

Keynote Address. The NIOSH Symposium on Efforts to Prevent Injuries and Disease Among Agricultural Workers at Lexington, Kentucky, August 27, 1993.

Keynote Address. Health and Safety Conference for Newly Independent Russian States, Moscow, Russia, September 7-10, 1993.

Keynote Address. The Role of Exposure Databases in Disease Surveillance and Occupational Epidemiology. ACGIH Conference on Occupational Exposure Databases at McLean, Virginia, November 3, 1993.

Keynote Address. The AUPOHS Meeting, Washington, DC, November 12, 1993.

Opening Address and Charge. Silent Epidemics in the Workplace: A Conference on Occupational Disease and Health Care Reform, Washington, DC, January 11-14, 1994.

The Occupational Health of Health Care Workers: The National Agenda. Presented at Employee Health in the 1990's Protecting and Serving Health Care Workers: Practical Strategies and Solutions, New York, New York, January 26, 1994.

Introduction and Overview, Workplace Hazards. Symposium on Health Research and Needs to Ensure Environmental Justice, Arlington, Virginia, February 10, 1994.

Keynote Address. The Carpenter's Safety and Health Fund. Carpenters Safety and Health Fund Fourth Annual Conference, Las Vegas, Nevada, March 15, 1994.

Keynote Address. The IAFF Legislative Conference, Washington, DC, March 16, 1994.

Keynote Address. Horizons in Occupational Science Symposium and Alice Hamilton Awards Ceremony, Morgantown, WV, April 7, 1994.

The Use of Bio-markers in Occupational Safety and Health. DOE Workshop on the Practical Application of Bio-markers in Medicine, Santa Fe, New Mexico, April 27-29, 1994.

Keynote Address. The NOSHEA General Meeting, Fort Mitchell, Kentucky, April 14, 1994.

Responsible Science: Ethical Standards - Moral Behavior. World Health Organization Collaborating Centres Annual Meeting, Beijing, China, October 14, 1994.

Opening Remarks at the National Child Labor Committee Meeting. New York, New York, November 18, 1994.

Keynote Address. 1995 NASA Occupational Health Program Annual Meeting. Cape Canaveral, Florida, February 6, 1995.

Document Development and Dissemination. National Advisory Committee on Occupational Safety and Health, Department of Labor, February, 1995.

New Industrialization in Developing Countries. American Occupational Health Conference, Las Vegas, NV, May 4, 1995.

From Research to Prevention - Keynote Address. 50th Anniversary, The Finish Institute of Occupational Health, Helsinki, Finland, March 1995.

The Future of Occupational Health in the Americas - Plenary Address. 50th Anniversary, The Finish Institute of Occupational Health, Helsinki, Finland, March 1995.

Crisis in Occupational Safety and Health - NIOSH Heritage and Future. Super Panel, American Industrial Hygiene Conference and Exposition, Kansas City, Mo., May 24, 1995.

The Future of Occupational Safety and Health. International Congress on Hazardous Waste, Atlanta, Ga, June 6, 1995.

The History of Occupational Health and Safety in the United States and the Challenges of the Future - Keynote Address. Joint Finish - United States Symposium on Occupational Health, Helsinki, Finland, July 1995.

Work and Stress - Opening Address. Work, Stress and Health 1995: Creating Healthier Workplaces, American Psychological Association, Washington, DC, September 14, 1995.

Ethical and Social Principles in Occupational Health Practices, 1-3 December 1997, Helsinki, Finland. Programme Chair, 2 December & Key Speaker, 3 December on Ethics and Occupational Health with special reference to International Scientific Organizations, & Panel discussant on Ethics in the Future of Occupational Health.

Asbestos Symposium for the Countries of Central and Eastern Europe, 4-6 December 1997, Budapest, Hungary. Keynote Final Speaker on Challenge for the 21<sup>st</sup> Century - how to prevent the global asbestos epidemic from expanding (focus on Eastern Europe and developing countries).

Asbestos Usage and Disease, Congresso Mundial do Amianto (Global Asbestos Conference) Keynote Address, Osasco, Brazil, 17 – 20 September 2000.

Current concepts in Asbestos-Related Lung Disease, 17-19 March, 2005. Harvard Medical School, Department of continuing Education. Boston, MA. Two presentations: Unique occupations with exposure to asbestos & Chrysotile in relation to diffuse malignant mesothelioma.

#### SELECTED PUBLICATIONS, MONOGRAPHS AND BOOKS

Varela, G, and Lemen, RA: Summer Health Hazards. Office of the Post Surgeon, U.S. Army, Fort Leonard Wood, MO, 1968.

Donnel, HD, Jr., Ward, MJ, Lemen, RA: Data for Health Planning Purposes. Program Methodology Unit, Missouri Regional Medical Program, Columbia, MO, pp. 73, 1970.

**Lemen, RA**: Spray Application of Fire proof Insulation at the construction site of the Proctor and Gamble Technical Center, Blue Ash, OH, NIOSH, Cincinnati, Ohio, pp. 4, 1972.

Wagoner, JK, Johnson, WM, Lemen, RA, 1973. Malignant and Non-Malignant Respiratory Disease Patterns Among Asbestos Production Workers. Congressional Record - Senate pp. 7828-7830.

Fontaine, RE, Lemen, RA, Heath, CW: Peripheral Neuropathy. An unpublished report to the Director, Center for Disease Control, Public Health Service, Atlanta, Georgia, EPI-74-29-2, pp. 15, 1974. Lemen RA, Lee JS, Wagoner JK, Blejer HP, 1976. Cancer mortality among cadmium production workers. Ann N Y Acad Sci. 271: 273-279.

Lemen, RA, Johnson, WM, Wagoner, JK, Archer, VE, Saccomanno, G, 1976. Cytologic Observations and Cancer Incidence following Exposure to BCME. Occupational Carcinogenesis, Annals of the New York Academy of Sciences, Eds., Umberto Saffiotti and Joseph K. Wagoner, 271:71-80.

**Lemen, RA**, Wagoner, JK, Blejer, HP: Mortality Among Workers Exposed to Cadmium. Occupational Carcinogenesis, Annals of the New York Academy of Sciences, Eds., Umberto Saffiotti and Joseph K. Wagoner, 271:273-279, 1976.

Gillam, JD, Dement, J, Lemen, RA, Wagoner, JK, Archer VE, Blejer, HP, 1976. Mortality Patterns Among Hard Rock Gold Miners Exposed to an Asbestiform Mineral. Occupational Carcinogenesis, Annals of New York Academy of Sciences, Eds., Umberto Saffiotti and Joseph K. Wagoner, 271:336-344.

Bridbord, K, Wagoner, JK, Blejer, HP, Landrigan, PJ, Lemen, RA: The Role of Epidemiology in Assessing the Health Effects of Metals. International Conference on Environmental Sensing and Assessment, 1:1-4, 1976.

Lloyd, JW, Lemen, RA: Cancer hazards in Steel, Ferroalloy and Aluminum Production. Proceedings of the International Conference on Health in Metal Working Industries, Oslo, Norway, August 16-19, 1976.

Infante, PF, Lemen, RA, 1976. Asbestos in Dentistry. American Dental Association Journal, 93:221-222.

**Lemen, RA**, Brown, DP, Rinsky, RA, Young, RJ, Meinhardt, TJ: Health Problems Associated with Selected Petrochemicals: Benzene, Chlorinated Hydrocarbons, and Styrene-Butadiene Rubber. Prevention and Detection of Cancer, Macel Dekker, Inc., New York and Basel, Library of Congress Catalog Card Number 77-87546. Ed., H. E., Nieburgs, 1879-1891, 1978.

**Lemen, RA**, et al.,: Comments on Critique of "Mortality Patterns Among Hard Rock Gold Miners Exposed to an Asbestiform Mineral" and "Asbestos Fiber Exposures in a Hard Rock Gold Mine." National Technical Information Service, Springfield, Virginia, 1977.

**Lemen, RA**, Dement, JM, Wagoner, JK, 1976. Reevaluation of Data Relative to Health Effects of Occupational Exposure to Asbestos. U.S. Department of Health, Education and Welfare, Public Health Service, Center for Disease Control, National Institute for Occupational Safety and Health (NIOSH), DHEW Publication No. 77-169.

**Lemen, RA**: IARC Monographs on the Evaluation of Carcinogenic Risk of Chemicals to Man--Asbestos. Draft Manuscript Prepared by RA, Lemen, International Agency for Research on Cancer, World Health Organization, Lyon, France, Vol. 14, 1977.

**Lemen, RA**: Cancer Related Problems in the Steel, Aluminum and Cadmium Smelting Industries. Proceedings of a Conference on Environmental Cancer Causes, Victims, and Solutions; Urban Environment Conference, Inc., 1977.

Lemen, RA, Young, R: Investigations of Health Hazards in Styrene-Butadiene Rubber Facilities. Proceedings of NIOSH Styrene-Butadiene Briefing, April 30, 1976, DHEW Publication No. (NIOSH) 77-129, U.S. Department of Health, Education and Welfare, Public Health Service, CDC, NIOSH, Cincinnati, Ohio, December 1976, pp. 3-8, 1977.

**Lemen, RA**: Epidemiologic Studies. Proceedings of NIOSH Styrene-Butadiene Briefing, April 30, 1976. DHEW Publication No. (NIOSH) 77-129, U.S. Department of Health, Education and Welfare, CDC, NIOSH, Cincinnati, Ohio, December 1976, pp. 49-50, 1977.

**Lemen, RA,** Epstein, SS: Environmental Pollution and Carcinogenic Risks, Book Review. The Science of Total Environment, Elsevier Scientific Publishing Company, Amsterdam-Printed in the Netherlands, p. 355, 1977.

**Lemen, RA**, Dement, JM: <u>Dust and Disease.</u> Pathotox Publishers, Inc., Park Forest South, Illinois, Library of Congress Catalog Card Number 79Ä88819, 1979.

Robinson, C, Lemen, RA, Wagoner, JK: Mortality Patterns, 1940-1975, Among Workers Employed in an Asbestos Textile Friction and Packing Products Manufacturing Facility. In. Dust and Disease. Eds., Lemen, RA and Dement, JM, Pathotox Publishers, Inc., Chicago, Illinois, 1979.

**Lemen, RA**, Dement, JM, Wagoner, JK, 1980 Epidemiology of Asbestos-Related Diseases. Environmental Health Perspectives, 34:1-11, 1979, February.

**Lemen, RA,** et al.: Workplace Exposure to Asbestos: Review and Recommendations. NIOSH/OSHA Asbestos Work Group, U.S. Department Health Education and Welfare and the U.S. Department of Labor, DHHS (NIOSH) Publication No. 81-103, April, 1980.

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Martin, WF, Lemen, RA, 1982. NIOSH's Standards Recommending Program. Proceedings of the Third Annual Park City Environmental Health Conference. Ed. William Rom and Jefferey S. Lee. Legal and Ethical Dilemmas in Occupational Health, Ann Arbor Science.

Johnson, WM, Lemen, RA, Hurst, GA, Spiegel, RM, Liu, FHY, 1982. Respiratory Morbidity Among Workers in An Amosite Asbestos Insulation Plant. Journal of Occupational Medicine, 24:12, December, 1982.

Ing, R, Falk, H, Lemen, RA, Carson, G, Kelter, A, Srn, J, Gray, M, 1981. Community Asbestos Exposure in Globe Arizona. The Journal of Pediatrics, 99:3, September, The C.V. Mosby Co.

Landrigan, PJ, Meinhardt, TJ, Gordon, J, Lipscomb, JA, Gurg, JR, Mazzuckelli, LF, Lewis, TR, Lemen, RA: Ethylene Oxide: An Overview of Toxicologic And Epidemiologic Research. American Journal of Industrial Medicine 6:103-115, 1984.

Stayner, LT, Meinhardt, TJ, Lemen, RA, Bayliss, D, Herrick, R, Reeve, GR, Smith, AB, Halperin, W: A Retrospective Cohort Mortality Study of a Phosphate Fertilizer Production Facility. Archives of Environmental Health 40(3):133, 1983.

Waxweiler, RJ, Beaumont, JJ, Henry, JA, Brown, DP, Robinson, CF, Ness, GO, Wagoner, JK, Lemen, RA, 1983. A Modified Life-Table Analysis System for Cohort Studies, Journal of Occupational Medicine, 25:2, February.

Meinhardt, TJ, Lemen, RA, Crandall, MS, Young, RJ, 1982. Environmental Epidemiologic Investigation of the Styrene-butadiene Rubber Industry, Scand J Work Environ Health, 8:4, December.

Thun MJ, Schnorr TM, Smith AB, Halperin WE, Lemen RA, 1985. Mortality among a cohort of U.S. cadmium production workers- an update. J Natl Cancer Inst. Feb; 74(2): 325-333.

**Lemen, RA, 1986.** Occupational Induced Lung Cancer. Occupational Respiratory Disease, J. M. Merchant, Ed., U.S. Department of Health and Human Services, NIOSH, DHHS (NIOSH), Publication No. 86-102, September, 1986.

**Lemen, RA**: Health Hazards in Shipbuilding. Proceedings of the 3rd Biennial National Shipbuilding Conference, Metal Trades Department, AFL-CIO, Washington, D.C., 1985.

Lemen, RA, Dunnom, DD, Wagner, WD, Mazzuckelli, LF: Recommended Standards for Occupational Exposure to Silica. ID: Silica, Silicosis, and Cancer, Ed. Goldsmith, DF, Winn, DM, Shy, CM, Praeger, Cancer Research Monographs 2:505, 1986.

**Lemen, RA**, Meinhardt, TJ, Becking, G, Cantor, K, Cherner, J, Cordle, F, Groth, D, Keller, C, Lybarger, J, McConnell, E, Millette, J, Patel, Y, Mullin, C, Tollefson, L: Report on Cancer Risks Associated with Ingestion of Asbestos, Environmental Health Perspectives, Vol. 71, March 1987.

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**Lemen, RA**: Methodology for the Development of Effective Occupational Health Programs in Developing Countries. Doctoral Dissertation, University of Cincinnati, 1992, ON 9223984, University Microfilms International, Ann Arbor, MI.

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**Lemen, RA**. & Castleman, B. I., 1998. Challenge for the 21<sup>st</sup> Century - how to prevent the global asbestos epidemic from expanding (focus on Eastern Europe and developing countries). Proceedings of the Asbestos Symposium for the Countries of Central and Eastern Europe, 4-6 December 1997, Budapest, Hungary. People and Work, Research Reports 19, J. Rantannen (ed.), Finnish Institute of Occupational Health.

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**Lemen, RA.**, 1999. Role of government in occupational and environmental health. Int J Occup Environment Health, Vol. 5, No. 4, Oct-Dec, p. 283-286.

**Lemen, RA.**, 2000. Re: Call for an international ban on asbestos – Why asbestos should be banned. Am J Ind Med, Vol. 37, p. 230-231, Jan.

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Lemen, RA, 2001: Fiberglass – Chapter 15. <u>In Patty's Toxicology, Fifth Edition, Vol. I,</u> Ed. Bingham, E., Cohrssen, B., & Powell, C. John Wiley & Sons, Inc, pp. 575-582.

Bingham, E. & Lemen, RA, 2001: Silica and Silicon – Chapter 11. In Patty's Toxicology, Fifth Edition, Vol. I Ed. Bingham, E., Cohrssen, B., Powell, & C., John Wiley & Sons, Inc., pp. 415-460.

**Lemen, RA**, 2001: Unsaturated Halogenated Hydrocarbons – Chapter 64. <u>In Patty's Toxicology, Fifth Edition, Vol. V</u>, Ed. Bingham, E., Cohrssen, B., & Powell, C. John Wiley & Sons, Inc., pp. 205-297.

Ashford NA, Castleman B, Frank AL, Giannasi F, Goldman LR, Greenberg M, Huff J, Joshi KT, LaDou J, Lemen RA, Maltoni C, O'Neil R, Richter E, Silbergel FK, Teitelbaum DT, Thebaud-Mony A, Tomatis L, Watterson A, 2002. The Intenational Commission on Occupational Health (ICOH) and its influence on internation organizations. Int J Occup Environ Health. Apr-Jun; (2): 156-162.

Lemen, RA, 2003: Re: Scrutinizing ACGIH Risk Assessments: The trichloroethylene case – Rudén C., 2003. Letter to the editor. Am J Ind Med, Vol. 44, pp. 207-213. Am J Ind Med, Vol. 43, Nov, p. 560.

Lemen, RA, 2004: Asbestos in Brakes: Exposure and Risk of Disease. Am J Ind Med, Vol. 45, Mar., p. 229-237.

**Lemen, RA**, 2004: Chrysotile Asbestos as a Cause of Mesothelioma; Application of the Hill causation model. Int J Occup Environ Health. Vol. 10, p. 233-239.

Lemen, RA, 2004: Re: Asbestos in brakes: Exposure and risk of disease. Am J Ind Med, Vol. 46, p. 315-318.

Lemen, RA, 2005. Reply to Victor L. Roggli and Arthur M. Langer. Am J Ind Med. Mar;(3): 278-280.

**Lemen, RA**, 2005. Asbestos related disease risks still exist (I rischi delle malattie da amianto sono tuttora presenti). Eur J Oncol, 10(1); 9-30.

**Lemen, RA**, 2005. Epidemiology of Asbestos-Related Diseases and the Knowledge that Led to What is Known Today. In: **ASBESTOS Risk Assessment, Epidemiology, and Health Effects**, Eds. RF Dodson, SP Hammar. CRC Taylor & Francis, 201-308.

# MANUSCRIPTS AND DOCUMENTS DEVELOPED UNDER MY DIRECTION WHILE SERVING AS DIRECTOR OF THE DIVISION OF STANDARDS DEVELOPMENT AND TECHNOLOGY TRANSFER, NIOSH

## Criteria Documents for a Recommended Occupational Standard

NIOSH, 1981. Criteria for a recommended standard: Coal Liquefaction, Vol, I (Summary), Vol II (Assessment). U. S. Department of Health and Human Services, Public Health Service, Centers for Disease

- Control, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 81-131/81-132, Cincinnati, Ohio.
- NIOSH, 1981. Criteria for a recommended standard: Rendering Processes, Criteria for Controlling Occupational Hazards in Animals. U. S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 81-133, Cincinnati, Ohio.
- NIOSH, 1982. Criteria for a recommended standard: Cobalt. U. S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 82-107, Cincinnati, Ohio.
- NIOSH, 1983. Criteria for a recommended standard: Di-2- Ethylhexyl Phthalate (DEHP). U. S. Department of Health and Human Service, Centers for Disease Control, National Institute for Occupational Safety and Health, March, Cincinnati, Ohio.
- NIOSH, 1983. Criteria for a recommended standard: Excavations. U. S. Department of Health and Human Services, Centers for Disease Control, National Institute for Occupational Safety and Health, DHHS (NIOSH) 83-103, Cincinnati, Ohio.
- NIOSH, 1983. Criteria for a recommended standard: Styrene. U. S. Department of Health and Human Services, Centers for Disease Control, National Institute for Occupational Safety and Health, DHHS (NIOSH) 83-103, Cincinnati, Ohio.
- NIOSH, 1983. Criteria for a recommended standard: Guidelines for Controlling Hazardous Energy. U. S. Department of Health and Human Services, Centers for Disease Control, National Institute for Occupational Safety and Health, DHHS (NIOSH) 83-125, Cincinnati, Ohio.
- NIOSH, 1983. Criteria for a recommended standard: Grain Elevators and Feed Mills. U. S. Department of Health and Human Services, Centers for Disease Control, National Institute for Occupational Safety and Health, DHHS (NIOSH) 83-126, Cincinnati, Ohio.
- NIOSH, 1983. Criteria for a recommended standard: Oil and Gas Well Drilling. U. S. Department of Health and Human Services, Centers for Disease Control, National Institute for Occupational Safety and Health, DHHS (NIOSH) 83-127, Cincinnati, Ohio.
- NIOSH, 1984. Criteria for a recommended standard: Precast Concrete Products. U. S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, National Institute for Occupational Safety and Health, DHHS (NIOSH) 84-103, Cincinnati, Ohio.
- NIOSH, 1984. Criteria for a recommended standard: Paint and Allied Coating products. U. S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, National Institute for Occupational Safety and Health, DHHS (NIOSH) 84-115, Cincinnati, Ohio.
- NIOSH, 1985. Criteria for a recommended standard: Foundries. U. S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, National Instituted for Occupational Safety and Health, DHHS (NIOSH) 85-116, Cincinnati, Ohio.
- NIOSH, 1986. Criteria for a recommended standard: Hot Environments (Revised). U. S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, National Institute for Occupational Safety and Health, DHHS (NIOSH) 86-113.
- NIOSH, 1988. Criteria for a recommended standard: Radon. U. S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, National Institute for Occupational Safety and Health, DHHS (NIOSH) 88-101.

NIOSH, 1988. Criteria for a recommended standard: Welding, Brazing, and Thermal Cutting. U. S. Department of Health and Services, Centers for Diseases Control, National Institute for Occupational Safety and Health, DHHS (NIOSH) 88-110.

NIOH and NIOSH, 1988. Basis for an Occupational Health Standard: Grain Dust - Health Hazards of Storing, Handling and Shipping Grain. Arbete Och Halsa vetenskaplig skriftserie. Joint Document between the National Institute of Occupational Health of Sweden and National Institute for Occupational Safety and Health. Vol. 14, Solna, Sweden. First joint NIOSH/NIOH Publication.

## **Current Intelligence Bulletins**

- NIOSH, 1981. Current Intelligence Bulletin 34 on Formaldehyde: Evidence of Carcinogenicity. U. S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, National Institute for Occupational Safety and Health, April 15, Cincinnati, Ohio.
- NIOSH, 1981. Current Intelligence Bulletin 35 on Ethylene Oxide (EtO). U. S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, National Institute for Occupational Safety and Health, May 22, DHHS (NIOSH) 81-137, Cincinnati, Ohio.
- NIOSH, 1981. Current Intelligence Bulletin 36 on: Silica Flour Silicosis (Crystalline Silica). U. S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, National Institute for Occupational Safety and Health, June 30, DHHS (NIOSH) 81-107, Cincinnati, Ohio.
- NIOSH, 1981. Current Intelligence Bulletin 37 on Ethylene Dibromide (EDB). U. S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, National Institute for Occupational Safety and Health, October 26, DHHS (NIOSH) 82-105, Cincinnati, Ohio.
- NIOSH, 1983. Current Intelligence Bulletin 38 on Vibration Syndrome. U. S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, National Institute for Occupational Safety and Health, March 29, DHHS (NIOSH) 83-110, Cincinnati, Ohio.
- NIOSH, 1983. Current Intelligence Bulletin 39 on Glycol Ethers: 2 Methoxyethanol and 2 Ethoxyethanol. U. S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, National Institute for Occupational Safety and Health, May 2, DHHS (NIOSH) 82-112, Cincinnati, Ohio.
- NIOSH, 1984. Current Intelligence Bulletin 40 on 2,3,7,8 -Tetrachlorodibenzo-p-dioxin. U. S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, National Institute for Occupational Safety and Health, January 23, DHHS (NIOSH) 84-104, Cincinnati, Ohio.
- NIOSH, 1984. Current Intelligence Bulletin 41 on 1,3 Butadiene. U. S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, National Institute for Occupational Safety and Health, February 9, DHHS (NIOSH) 84-105, Cincinnati, Ohio.
- NIOSH, 1984. Current Intelligence Bulletin 42 on Cadmium (Cd). U. S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, National Institute for Occupational Safety and Health, September 27, DHHS (NIOSH) 84-116, Cincinnati, Ohio.
- NIOSH, 1984. Current Intelligence Bulletin 43 on Monohalomethanes: Methyl Chloride, Methyl Bromide, Methyl Iodide. U. S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, National Institute for Occupational Safety and Health, September, 27, DHHS (NIOSH) 84-117, Cincinnati, Ohio.

- NIOSH, 1985. Current Intelligence Bulletin 44 on Dinitrotoluenes (DNT). U. S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, National Institute for Occupational Safety and Health, July 5, DHHS (NIOSH) 85-109, Cincinnati, Ohio.
- NIOSH, 1986. Current Intelligence Bulletin 45 Polychlorinated Biphenyls (PCB's): Potential Health Hazards from Electrical Equipment Fires or Failures. U. S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, National Institute for Occupational Safety and Health, February 24, DHHS (NIOSH) 86-111, Cincinnati, Ohio.
- NIOSH, 1986. Current Intelligence Bulletin 46 Methylene Chloride. U. S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, National Institute for Occupational Safety and Health, April 18, Cincinnati, Ohio.
- NIOSH, 1986. Current Intelligence Bulletin 47 4,4' Methylenedianiline (MDA) (Revised). U. S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, National Institute for Occupational Safety and Health, July 25, DHHS (NIOSH) 86-115, Cincinnati, Ohio.
- NIOSH, 1986. Current Intelligence Bulletin 48 Organic Solvent Neurotoxicity. U. S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, National Institute for Occupational Safety and Health, March 31, DHHS (NIOSH), Cincinnati, Ohio.
- NIOSH, 1987. Current Intelligence Bulletin 49 Injuries and Amputations Resulting from Work with Mechanical Power Presses. U. S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, National Institute for Occupational Safety and Health, May 22, DHHS (NIOSH), Cincinnati, Ohio.
- NIOSH, 1988. Current Intelligence Bulletin 50 Carcinogenic Effects of Exposure to Diesel Exhaust. U. S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, National Institute for Occupational Safety and Health, August, DHHS (NIOSH) 88-116, Cincinnati, Ohio.

## Alerts

- NIOSH, 1980. 2-Nitropropane Alert. U. S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, National Institute for Occupational Safety and Health, March, DHHS (NIOSH) 80-142, Cincinnati, Ohio.
- NIOSH, 1981. Benzidine-, O-Toluidine-, and O-Diaisidine-based dyes Alert. U. S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, National Institute for Occupational Safety and Health, December, DHHS (NIOSH) 81-106, Cincinnati, Ohio.
- NIOSH, 1984. Request for Assistance in Controlling Carbon Monoxide Hazard in Aircraft Refueling Operations Mini-Alert. U. S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, National Institute for Occupational Safety and Health, February, DHHS (NIOSH) 84-106, Cincinnati, Ohio.
- NIOSH, 1984. Request for Assistance in Preventing Electrocutions of Workers in Fast Food Restaurants Alert. U. S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, National Institute for Occupational Safety and Health, December, DHHS (NIOSH) 85-104, Cincinnati, Ohio.
- NIOSH, 1984. Request for Assistance in Preventing the Injury of Workers by Robots Alert. U. S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, National Institute for Occupational Safety and Health, December, DHHS (NIOSH) 85-103, Cincinnati, Ohio.

- NIOSH, 1985. Request for Assistance in Preventing Electrocutions form Contact Between Cranes and Power Lines Alert. U. S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, National Institute for Occupational Safety and Health, July, DHHS (NIOSH) 85-111, Cincinnati, Ohio.
- NIOSH, 1985. Request for Assistance in Preventing Deaths and Injuries from Excavation Caveins Alert. U. S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, National Institute for Occupational Safety and Health, July, DHHS (NIOSH) 85-110, Cincinnati, Ohio.
- NIOSH, 1985. Request for Assistance in Preventing Hazards in the Use of Water Spray (Fog) Streams to Prevent or Control Ignition of Flammable Atmospheres Alert. U. S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, National Institute for Occupational Safety and Health, July, 85-112, Cincinnati, Ohio.
- NIOSH, 1986. Request for Assistance in Preventing Occupational Fatalities in Confined Spaces Alert. U. S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, National Institute for Occupational Safety and Health, January, DHHS (NIOSH) 86-110, Cincinnati, Ohio.
- NIOSH, 1986. Request for Assistance in Preventing Grain Auger Electrocutions Alert. U. S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, National Institute for Occupational Safety and Health, July, DHHS (NIOSH) 86-119, Cincinnati, Ohio.
- NIOSH, 1986. Request for Assistance in Preventing Fatalities Due to Fires and Explosions in Oxygen Limiting Silos Alert. U. S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, National Institute for Occupational Safety and Health, July, DHHS (NIOSH) 86-118, Cincinnati, Ohio.
- NIOSH, 1986. Request for Assistance in Preventing Electrocutions Due to Damaged Receptacles and Connectors Alert. U. S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, National Institute for Occupational Safety and Health, October, DHHS (NIOSH) 87-100, Cincinnati, Ohio.
- NIOSH, 1986. Request for Assistance in Preventing Fatalities of Workers Who Contact Electrical Energy Alert. U. S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, National Institute for Occupational Safety and Health, December, DHHS (NIOSH) 87-103, Cincinnati, Ohio.
- NIOSH, 1987. Request for Assistance in Reducing the Potential Risk of Developing Cancer form Exposure to Gallium Arsenide in the Microelectronics Industry Alert. U. S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, National Institute for Occupational Safety and Health, October, DHHS (NIOSH) 88-100, Cincinnati, Ohio.
- NIOSH, 1987. Request for Assistance in Preventing Entrapment and Suffocation Caused by the Unstable Surfaces of Stored Grain and Other Materials Alert. U. S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, National Institute for Occupational Safety and Health, December, DHHS (NIOSH) 88-102, Cincinnati, Ohio.
- NIOSH, 1987. Request for Assistance in Preventing Vision Disturbances and Acute Physical Distress Due to Dimethylethylamine (DMEA) Exposure Alert. U. S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, National Institute for Occupational Safety and Health, December, 88-103, Cincinnati, Ohio.

- NIOSH, 1987. Request for Assistance in Preventing Electrocutions by Undetected Feedback Electrical Energy Present In Power Lines Alert. U. S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, National Institute for Occupational Safety and Health, December, DHHS (NIOSH) 88-104, Cincinnati, Ohio.
- NIOSH, 1993. Request for Assistance in Preventing Homicide in the Workplace Alert. U. S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, September, DHHS (NIOSH) 93-109, Cincinnati, Ohio.
- NIOSH, 1994. Request for Assistance in Controlling Exposures to Nitrous Oxide During Anesthetic Administration Alert. U. S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, April, DHHS (NIOSH) No. 94-100, Cincinnati, Ohio.
- NIOSH, 1994. Request for Assistance in Preventing Organic Dust Toxic Syndrome Alert. U. S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, April, DHHS (NIOSH) 94-102, Cincinnati, Ohio.
- NIOSH, 1994. Request for Assistance in Preventing Drowning of Commercial Fishermen Alert. U. S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, April, DHHS (NIOSH) 94-107, Cincinnati, Ohio.

#### **Miscellaneous Publications**

- NIOSH, 1982. Residential Waste Collection Bulletin. U. S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, National Institute for Occupational Safety and Health, March, DHHS (NIOSH) 82-115, Cincinnati, Ohio.
- NIOSH, 1983. Di-2-Ethylhexyl Phthalate (DOP) or DEHP Hazard Review. U. S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, National Institute for Occupation Safety and Health, March, Cincinnati, Ohio.
- NIOSH, 1983. Hazardous Waste Sites and Hazardous Substance Emergencies -Worker Bulletin. U. S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, National Institute for Occupational Safety and Health. December, DHHS (NIOSH) 83-100, Cincinnati, Ohio.
- NIOSH, 1984. Dormant Standards: Review of OSHA Inactive Standards. U. S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, National Institute for Occupational Safety and Health, October, Cincinnati, Ohio.
- NIOSH, 1985. Diesel White Paper. U. S. Department of Health Human Services, Public Health Service, Centers for Disease Control, National Institute for Occupational Safety and Health, November 7, Cincinnati, Ohio.
- NIOSH, 1985. Hazardous Waste Comprehensive Guidance Manual. U. S. Department of Health and Human Services, U. S. Environmental Protection Agency, U. S. Coast Guard, and U. S. Department of Labor. National Institute for Occupational Safety and Health, Centers for Disease Control, Public Health Service, DHHS (NIOSH) 85-115, Cincinnati, Ohio.

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NIOSH, 1986. Hot Environments. U. S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, National Institute for Occupational Safety and Health, April, DHHS (NIOSH) 86-113, Cincinnati, Ohio.

NIOSH, 1987. Wood Dust White Paper. U. S. Department of Health and Human Service, Public Health Service, Centers for Disease Control, National Institute for Occupational Safety and Health, June, Cincinnati, Ohio.

NIOSH, 1987. Respirator Decision Logic. U. S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, National Institute for Occupational Safety and Health, May, DHHS (NIOSH) 87-108, Cincinnati, Ohio.

NIOSH, 1987. HBV/HIV Joint Advisory Notice - DOL/HHS. U. S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, National Institute for Occupational Safety and Health. U. S. Department of Labor, Occupational Safety and Health Administration. October, Washington, D.C.

NIOSH, 1988. Guidelines for Health Care Workers. U. S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, National Institute for Occupational Safety and Health, September, DHHS (NIOSH) 88-119, Cincinnati, Ohio.

1-800-35-NIOSH - I initiated this toll-free number for workers, employers, and private citizens to contact NIOSH for health and safety information which now serves over 88,000 calls a year.

#### SHORT-TERM TRAINING

Epidemiology and Control of Food-Borne Disease: January 24-28, 1966, at the Communicable Disease Center, U.S. Public Health Service at Jefferson City, Missouri.

Field Training Course in Environmental Sanitation: June 23-August 5, 1966, at the University of Missouri, Conducted by the U.S. Public Health Service.

Rodent Borne Disease Control: July, 1966, at the Communicable Disease Center, U.S. Public Health Service, at Columbia, Missouri.

Mosquito - Borne Disease: May 31-June 9, 1967, at the Communicable Disease Center, U.S. Public Health Service, Atlanta, Georgia.

Air Sampling in the Occupational Environment: September-October, 1970, Training Institute, Environmental Control Administration, U.S. Public Health Service at Cincinnati, Ohio.

Industrial Hygiene Engineering (501): November 30-December 11, 1970, Training Institute, Environmental Control Administration, U.S. Public Health Service, Cincinnati, Ohio.

DOS-COBOL Seminar: October 26-30, 1970, Cincinnati, Ohio.

Twentieth Industrial Ventilation Conference: February 14-19, 1971, Continuing Education Program, Michigan State University, Lansing, Michigan.

Principles of Chemical Epidemiology: October 19-22, 1971, Environmental Protection Agency, Atlanta, Georgia.

Dr. W. Edwards Deming's course in Quality, Productivity and Competitive Position: May 1993, Dallas, Texas.

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## **INTERNATIONAL REPRESENTATIVE OF DHHS**

Delegate to the VIII International Congress on Occupational Health, Brighton, England, September 1975.

Tutored at the workshop and training course on Cancer Registries and Occupational Cancer, sponsored by the International Agency for Research on Cancer, World Health Organization, Lyon, France, September 1975.

Official guest of Der Staatliche Gewerbearzt in Dusseldorf, Germany, to design epidemiologic studies of the German vinyl chloride industry, September - October 1975.

Temporary Advisor to IARC Working Group on the Evaluation of Carcinogenic Risks of Chemicals to Man: Asbestos, Cadmium and Nickel. Lyon, France, December 1975.

Consulted with Dr. J. C. Wagner of the National Research Council on Health Hazards Associated with Asbestos, Cardiff, Wales, England, September 1976.

Member of the IARC Working Group on the Evaluation of Carcinogenic Risks of Chemicals to Man: Asbestos. Lyon, France, December 1976. (Authored the initial manuscript).

Official United States Department of Labor Deligation (Led by the Assistant Secretary of Labor) to Swedish Occupational Safety and Health Researchers and Labor Representatives, Stockholm, Sweden, April, 1980.

Member of the International Agency for Research on Cancer Working Group on the Evaluation of the Carcinogenic Risk of Exposures in the Rubber Industry, Lyon, France, June 1981.

Testimony before the Royal Commission on Matters of Health and Safety Arising from the Use of Asbestos - Ontario, Toronto, Canada, July 1981.

Member of the International Agency for Research on Cancer Working Group on the Evaluation of the Carcinogenic Risk of Chemicals to Humans: Miscellaneous Pesticides, Lyon, France, June 1982.

Negotiated NIOSH/WHO Cooperative Agreement Discussions, World Health Organization, Geneva, Switzerland, September, 1983.

Environmental Survey and Evaluation of Refugee Processing Centres in Bataan Peninsula, Leader of the United Nations Team, The Philippines, February 1984.

Environmental Survey and Evaluation of Refugee Processing Centres in Phanat Nikhom, Leader of the United Nations Team Chonburi Province, Thailand, February 1984.

Negotiated NIOSH/WHO Cooperative Agreement Discussions, World Health Organization, Geneva, Switzerland, August 1984.

Official Guest, Academia Sinica and Department of Health, Republic of China, June 1985.

Presentation on the Health Hazards of Seafarers, Heidelberg, Germany, Collegium Ramazzini, July 1986.

Member of the Programe Advisory Committee, Occupational Health Program, WHO, Geneva, Switzerland, February 1988.

Discussions on the Joint NIOSH/NIOH Cooperative Agreement for the Production of Documents, National Institute of Occupational Health, Stockholm, Sweden, February 1988.

Principle presentation, Collegium Ramazzini, Pneumoconiosis Conference and Merchant Seamen Conference, Athens, Greece, May 1988.

Collegium Ramazzini Conference on the Disease Potential of Different Asbestos Fiber Varieties. Ottawa, Canada, March 1989.

First Meeting of the Collaborating Centres in Occupational Health of the World Health Organizations Workers' Health Programme. Helsinki, Finland, June 1990.

Discussions concerned research findings and protocols on the health hazards from Electromagnetic Fields, National Institute of Occupational Health. Stockholm, Sweden. June - July 1990.

First meeting of the WHO Collaborating Centres on Occupational Safety and Health, Moscow, Russian Federation, September, 1992.

Planning Meeting for the Second Meeting of the WHO Collaborating Centres in Occupational Health, Geneva, Switzerland, June, 1992.

Chair meeting of the Evaluation Panel to assess the Finnish Institute of Occupational Health's Asbestos Emphasis Program, Helsinki, Finland, June 1992.

Principle presentation at the Scientific and Technical Advisory Council Meeting of the Carpenters Health and Safety Fund of North America, Montreal, Quebec, June 1993.

World Health Organization Collaboration Centres Meeting, Geneva, Switzerland, June 1993.

Meeting at the Finish Institute of Occupational Health, World Health Organization, Helsinki, Finland, June 1993.

Meeting with Dr. Tomaszunas, World Health Organization, Berlin, Germany, June 1993.

Chair, Second Asbestos Evaluation Committee meeting - Finish Institute of Occupational Health, Helsinki, Finland, September, 1993.

Leader of Delegation to the Tri-Partite (NIOSH, Moscow, Finnish Institute of Occupational Health) Symposium and joint symposium of the World Health Organization Collaborating Centres and the Finnish Institute, Moscow, Russia, September, 1993.

Principle presentation, Ramazzini Days Meeting of the Fellows, Bologna, Italy, October, 1993.

World Health Advisory Committee of the Collaborating Centres for Occupational Safety and Health, Geneva, Switzerland, February, 1994.

Planning Committee of the Collaborating Centres for Occupational Safety and Health for the 1994 annual meeting, Moscow, Russia, February, 1994.

Advisory Committee of the Collaborating Centres, Geneva, Switzerland, June, 1994.

Planning Committee of the Collaborating Centres and to discuss the World Health Organization Cooperative Agreement, Stockholm, Sweden, June, 1994.

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Principle presentation, Second meeting of the World Health Organization Collaborating Centres in Beijing, China, October, 1994.

Principle presentation, Irving J. Selikoff Scientific Conference on updating the epidemiology of asbestos disease at the Annual Ramazzini Days in Bologna, Italy, October, 1994.

Leader, NIOSH Delegation for the 50th Anniversary of the Finish Institute for Occupational Health, Helsinki, Finland, March 1995.

Chairperson, Planning Group of the WHO Collaborating Centres in Occupational Health, Geneva, Switzerland, June, 1995.

Leader, NIOSH Delegation for the Joint Finish - United States Symposium on Occupational Health, Helsinki, Finland, August, 1995.

# RECENT INTERNATIONAL ACTIVITIES

Representative of the Center to Protect Worker's Rights to the Hassan Fathy Institute's Program on Construction Safety and Health, Rome, Italy - 1996 to 1999

Expert Advisor, World Health Organization Expert Advisory Panel on Occupational Health, Term 1993 - 1997.

Chairperson, Evaluation Committee of the Finland Government's Asbestos Program, 1994 - 1996.

Chairperson, World Health Organization's Network of Collaborating Centres for Occupational Health, 1993 - 1996.

Editor, World Health Organization's Newsletter of the Collaborating Centres for Occupational Health, 1993 to 1999.

Keynote Speaker, Ethical and Social Principles in Occupational Health Practices, 1-3 December 1997, Helsinki, Finland.

Keynote Speaker, Asbestos Symposium for the Countries of Central and Eastern Europe. 4-6 December 1997, Budapest, Hungary.

Keynote Speaker, Global Asbestos Congress, Sao Paulo, Brazil, September 2000.

## **ORGANIZATION MEMBERSHIPS**

Society for Occupational and Environmental Health, Board of Directors, 1980 - 1982 and 1992 - Present, president-elect, 1997, president 1997 - 2001.

Society for Epidemiologic Research

Public Health Leadership Society

The American Public Health Association

The New York Academy of Sciences

Board of Governors, Tri-State Air Committee: Kentucky, Indiana, and Ohio, 1973-1976 and 1979.

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Beta Beta - Honorary Society for Biological Science, Elected 1964.

The Professional Association of the Commissioned Corps of the United States Public Health Service.

Association of Military Surgeons of the United States, Inactive as of 1996.

The Retired Officers Association of the United States of America

The Reserve Officers Association of the United States of America, Life Membership

Collegium Ramazzini, Elected Fellow.

Safety and Health Committee, International Association of Industrial Accident Boards and Commissions - Through 1995

Senior Science Advisor, The Center to Protect Worker's Rights - 1996 to 1997.

Chairperson, The Science and Technical Advisory Committee, Carpenters Health & Safety Fund, United Brotherhood of Carpenters – appointed 1990

Safety and Health Advisory Board, International Construction Institute, Hassan Fathy Institute, Rome, Italy 1996-1998